

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

Riverview Farms; Michael Blasdel, Eleanor Blasdel and Tammy Blasdel; Michael Boatwright and Iva KaLoia Boatwright; John Crenshaw; Joseph Edwards; Roy L. McCutchen and Trudy F. McCutchen; David R. Reed, Jr.; Harold D. Lowe and Michelle R. Lowe; Norman T. Massey; Crawford Lake Hunt Club, LLC; Darrin Rudolph and Marie Rudolph; James Wray and Kelly Wray; Shelby Lake Farms, LLC; Bandana Hunt Club, Inc.; Bandana Farms, LLC; Duccentral Farms, LLC; Father & Son Hunting Club, Inc.; HMS Farm & Water Fowl Hunting Club, LLC; Fielding Anderson; Hunters Pond, Inc.; Swan Lake Farms, LLC; Ax Lake Hunting & Fishing Club, Inc.; Mitchell Lake Farms, LLC; Ballard Waterfowl Properties, Inc.; Barker Land Holdings, LLC; Huntland Properties of Ballard County, LLC; Black Duck Flats, LLC; Lonnie Conyers; Melanie W. Kelley, POA for Olive Mae Wilson Coomer; David P. Damron; Waldon Hunting Club, Inc.; James Richard Waldon; Heritage Farms of Carlisle County, LLC; J & B Davis Farms, LLC and R & S Davis Farms, LLC; Stor-Mor Buildings, LLC; Charles K. Davis, Jr.; Barrow Farms, LLC; Prairie Lake Sportsman Club, LLC; Fallen Timber Farms, LLC; L. Christopher Drummond; Terry W. Gipson and Kimberly A. Gipson; Grassy Lake of Kentucky, LLC; The Creek Hunt Club, LLC; Gregory Joles; iDuck Investments, LLC; Melanie W. Kelley, Trustee of GST Exempt Trust U/T/A Martha Wilson and GST Exempt Trust U/T/A James A. Wilson; William E. Kilby and

Case No.: 1:18-cv-1099

Judge Richard A. Hertling

Marilyn Kilby; Mary Miller; Todd Moore and Lewis Dodds; Mallard – X Farm, LLC; Old Mitchel Field, LLC; Wildlife Farms, Inc.; Yancey Farms, Inc; Kenneth L. Schroeder; Soggy Bottom Boys Outfitters, LLC; Southern Horn Chute, LLC; Shawnee Creek Sportsmen's Club, LTD; Charles Stacey; Brent Sullivan and Tracy Sullivan; Tall Paul's Hunting Club, LLC; Ronnie Toombs and June Ann Toombs; Bobby J. Ashley and Patricia A. Ashley; Carol Anne Vander Boegh Irrevocable Trust; John Wiggins; Jim Coleman and Kate L. Coleman; Brett Wilson and Sharon Wilson; Greg A. Hambrick; Hambrick Farms Real Estate, LLC; Alice Hambrick; Tara D. Miller Living Trust; Roy Dillard and Laura Dillard; Randall Deweese, Joyce Deweese, and Hales Farms; Island Farms, LLC; and Grogan Properties, LLC; Middle Bar Partnership; Ricky L. Williams; Joseph D. House, Sr. and Katherine G. House; James R. Kerr, Jr.; Tony and Pam Gill; Darryl Wolford Farms, LLC; Matthew Morrow, Molly Morrow, and Morrow Revocable Trust; C. Fray Morrow, Crystal Hammond-Morrow, and C. Fray Morrow and Crystal Hammond-Morrow Revocable Trust; Julia Morrow Weber; Gail Morrow Justice and Gail Justice Morrow Revocable Trust; Margaret J. Morrow, Margaret J. Morrow Living Trust, and Raymond Morrow Family Trust; Stephen J. Morrow and Stephen J. Morrow Revocable Trust; Danielle Boyd; Robert Maxwell, Marcia I. Maxwell, and Maxwell Family Trust; Michael Reid and Kathryn Reid; Frank Shelton and Carla Shelton; Alicia M. Turner; William R. Noe; Floyd E. Carpenter; Blue Acres, LLC and Megan

Saylor Lifetime Trust; Freeman Finley Farms, LP; CPH Enterprises, LLC; Steven LaFont and Valerie LaFont; John A. Lafont; J. Matt LaFont; Andrew LaFont; Norman H. Lewis Trust; Poco Properties, LP; Albert Duenne; Mark Duenne and Julie Duenne; David Black; Sammy Boulton; Coy Jay Buchanan and Bradley L. Buchanan; Jerry Cooper, Keith Myers and Lynn Denton; Elite Fleeting & Consulting Services, LLC; Estate of Ora L. Haynes; Kieth Fryberger; John G. Holland, Jr.; Sonya and Mike Hosick; William Hunt, Bobby Hunt, Mary Ann Wolter, Holly Blackwell and Georgie Lang; L & E Wilson Family Limited Partnership; Larry E. Wilson, Bruce A. Wilson, and Leann E. Thurman; Stanley K. Myers; J. Eugene Pierce; Tyler Pittman; William D. Ryan, Jr. and Paul T. Ryan; Coy Simmons and Ronda Simmons; Tennessee River Towing, Inc.; West McCracken County Hunting Club, LLC; Estate of Harrison Williams, c/o Roger Allcock; Ellise Falkoff Family Testamentary Trust A and Ellise Falkoff Family Testamentary Trust B; Peggy Piper; James K. Reeves Living Trust; Crystal Lake Estate, Inc.; Tom Showmaker; Howard T. Troutman; Workman Properties, LLC; Martha Workman; James T. Workman, III; Patricia Workman Marchand; Joye Workman; Tracy Workman; S & W Farms, LLC; East & West Ponds, Inc.; Kentucky's Big 3, LLC; Columbus Bottoms, Inc.; Fort Jefferson Farms, LLC; Deweese Properties, LLC; Lukas Deweese; Mary Ann Wilson; Joe Burcham Irrevocable Trust; and Jewell & Jewell, LLC,

Plaintiffs,

v.

THE UNITED STATES,

Defendant.

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**SECOND-AMENDED COMPLAINT**

**NATURE OF THE CLAIM**

1. Plaintiffs bring their claims for takings of their land and other property within the reach of the Mississippi and Ohio Rivers by substantial, frequent, and inevitably recurring flooding caused by government action.

2. The U.S. Army Corps of Engineers (“the Corps” or “Corps”) has been reshaping the Mississippi, Ohio, and other Midwestern rivers to facilitate navigation for the past 150 years. Specifically, the Corps has constructed river training structures (“the Structures” or “Structures”) and conducted dredging operations in the Middle Mississippi River, the Lower Mississippi River, the Lower Ohio River, and Tributaries (collectively the “Rivers”) to maintain a navigable river channel.

3. Historically, the federal government had expressly encouraged and incentivized farming and economic development along the Rivers. Plaintiffs reasonably relied on the Corps’ authority and experience in managing the Rivers, and collectively invested billions of dollars and tremendous efforts to maintain their land and other property in those areas for its intended and customary use.

4. In recent years, the Corps has introduced new varieties of river training Structures to minimize the costly and environmentally detrimental dredging component of maintaining navigability.

5. As a result of the Corps' unabated addition of Structures, portions of the Rivers affecting Plaintiffs' property now include the greatest densities of dike structures, both in number and length, in the world. The Middle Mississippi River contains, on average, over 6,000 feet of dikes per mile of river channel. As of 2017, at least 27 dikes or dike segments have been constructed on the small stretch of the Lower Mississippi River from the confluence at Cairo, Illinois, south to Hickman Kentucky, with a cumulative length of 57,834 feet.

6. As a direct, natural, probable and foreseeable cumulative result of the Corps' increasingly aggressive manipulation of the Rivers, the Water Surface Elevations (WSEs) of the Rivers have increased, inundating Plaintiffs' property with flood waters with greater frequency, for longer durations, and at unusual times of year in a manner that deviates from historical flooding patterns and interfered with Plaintiffs' investment backed expectations (collectively, "atypical flooding").

7. The Corps knew or should have known that the cumulative result of the number and configuration of its river training Structures would be frequent and recurring overflow of the Rivers onto Plaintiffs' private property.

8. The Corps has not obtained flowage easements, through contract or inverse condemnation, nor has the Corps offered Plaintiffs just compensation for the benefit that it has appropriated for public use.

9. The flooding caused by the Corps' aggressive manipulation of the Rivers has disrupted and interfered with Plaintiffs' reasonable, investment-backed expectations for the intended and customary use of their land and other property.

10. The Corps' practices have sacrificed Plaintiffs' land and other property, without compensation, for the public purpose of improving navigation and protecting wildlife habitats in the Rivers.

### **JURISDICTION AND VENUE**

11. This Complaint states causes of action for taking of property and flowage easements without just compensation in violation of the Fifth Amendment to the United States Constitution. The Court has jurisdiction over this action under 28 U.S.C. § 1491(a).

12. Venue is proper in the United States Court of Federal Claims pursuant to 28 U.S.C. § 1491(a).

### **PARTIES**

13. The Plaintiffs are farmers who own or operate farms within the reach of the Mississippi River and Ohio River; individuals who reside or operate businesses in the reach of the Mississippi River and Ohio River; or individuals, corporations, partnerships, trusts or other legal entities that own or operate businesses in the reach of the Mississippi River and Ohio River.

14. The Plaintiffs were farmers who owned or operated farms within the reach of the Mississippi River and Ohio River; individuals who resided or operated businesses in the reach of the Mississippi River and Ohio River; or individuals,

corporations, partnerships, trusts or other legal entities that owned or operated businesses in the reach of the Mississippi River and Ohio River.

15. Plaintiff, Riverview Farms, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

16. Plaintiffs, Michael Blasdel, Eleanor Blasdel and Tammy Blasdel, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

17. Plaintiffs, Michael Boatwright and Iva KaLoia Boatwright, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

18. Plaintiff, John Crenshaw, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

19. Plaintiff, Joseph Edwards, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

20. Plaintiffs, Roy L. McCutchen and Trudy F. McCutchen, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

21. Plaintiff, David R. Reed, Jr., was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

22. Plaintiffs, Harold D. Lowe and Michelle R. Lowe, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

23. Plaintiff, Norman T. Massey, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

24. Plaintiff, Crawford Lake Hunt Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

25. Plaintiffs, Darrin Rudolph and Marie Rudolph, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

26. Plaintiffs, James Wray and Kelly Wray, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual recurrent and atypical flooding.

27. Plaintiff, Shelby Lake Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

28. Plaintiff, Bandana Hunt Club, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

29. Plaintiff, Bandana Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

30. Plaintiff, Duccentral Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

31. Plaintiff, Father & Son Hunting Club, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

32. Plaintiff, HMS Farm & Water Fowl Hunting Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

33. Plaintiff, Fielding Anderson, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

34. Plaintiff, Hunters Pond, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

35. Plaintiff, Swan Lake Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

36. Plaintiff, Ax Lake Hunting & Fishing Club, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

37. Plaintiff, Mitchell Lake Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

38. Plaintiff, Ballard Waterfowl Properties, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

39. Plaintiff, Barker Land Holdings, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

40. Plaintiff, Huntland Properties of Ballard County, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

41. Plaintiff, Black Duck Flats, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

42. Plaintiff, Lonnie Conyers, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

43. Plaintiff, Melanie W. Kelley, POA for Olive Mae Wilson Coomer, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

44. Plaintiff, David P. Damron, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

45. Plaintiff, Waldon Hunting Club, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

46. Plaintiff, James Richard Waldon, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

47. Plaintiff, Heritage Farms of Carlisle County, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

48. Plaintiffs, J & B Davis Farms, LLC and R & S Davis Farms, LLC, was deprived of the use and enjoyment of their land, listed in Exhibit A, due to

la taking by gradual, recurrent and atypical flooding.

49. Plaintiff, Stor-Mor Buildings, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

50. Plaintiff, Charles K. Davis, Jr., was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

51. Plaintiff, Barrow Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

52. Plaintiff, Prairie Lake Sportsman Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

53. Plaintiff, Fallen Timber Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

54. Plaintiff, L. Christopher Drummond, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

55. Plaintiffs, Terry W. Gipson and Kimberly A. Gipson, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

56. Plaintiff, Grassy Lake of Kentucky, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

57. Plaintiff, The Creek Hunt Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

58. Plaintiff, Gregory Joles, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

59. Plaintiff, iDuck Investments, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

60. Plaintiffs, Melanie W. Kelley, Trustee of GST Exempt Trust U/T/A Martha Wilson and Melanie W. Kelley, Trustee of GST Exempt Trust U/T/A James A. Wilson, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

61. Plaintiffs, William E. Kilby and Marilyn Kilby, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

62. Plaintiff, Mary Miller, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

63. Plaintiffs, Todd Moore and Lewis Dodds, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

64. Plaintiff, Mallard – X Farm, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

65. Plaintiff, Old Mitchell Field, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

66. Plaintiff, Wildlife Farms, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

67. Plaintiff, Yancey Farms, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

68. Plaintiff, Kenneth L. Schroeder, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

69. Plaintiff, Soggy Bottom Boys Outfitters, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

70. Plaintiff, Southern Horn Chute, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

71. Plaintiff, Shawnee Creek Sportsmen's Club, LTD, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

72. Plaintiff, Charles Stacey, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

73. Plaintiffs, Brent Sullivan and Tracy Sullivan, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

74. Plaintiff, Tall Paul's Hunting Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

75. Plaintiffs, Ronnie Toombs and June Ann Toombs, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

76. Plaintiffs, Bobby J. Ashley and Patricia A. Ashley, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

77. Plaintiff, Carol Anne Vander Boegh Irrevocable Trust, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

78. Plaintiff, John Wiggins, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual recurrent and atypical flooding.

79. Plaintiffs, Jim Coleman and Kate L. Coleman, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

80. Plaintiffs, Brett Wilson and Sharon Wilson, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

81. Plaintiff, Greg A. Hambrick, was deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

82. Plaintiff, Hambrick Farms Real Estate, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

83. Plaintiff, Alice Hambrick, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

84. Plaintiff, Tara D. Miller Living Trust, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

85. Plaintiffs, Roy Dillard and Laura Dillard, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

86. Plaintiffs, Randall Deweese, Joyce Deweese and Hales Farm were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

87. Plaintiff, Island Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

88. Plaintiff, Grogan Properties, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

89. Plaintiff, Middle Bar Partnership, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

90. Plaintiff, Ricky L. Williams, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

91. Plaintiffs, Joseph D. House, Sr. and Katherine G. House, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

92. Plaintiff, James R. Kerr, Jr., was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

93. Plaintiffs, Tony Gill and Pam Gill, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

94. Plaintiffs Darryl Wolford Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

95. Plaintiffs, Matthew Morrow, Molly Morrow, and Morrow Revocable Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

96. Plaintiffs, C. Fray Morrow, Crystal Hammond-Morrow, and C. Fray Morrow and Crystal Hammond-Morrow Revocable Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

97. Plaintiff, Julia Morrow Weber, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

98. Plaintiffs, Gail Morrow Justice and Gail Justice Morrow Revocable Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

99. Plaintiffs, Margaret J. Morrow, Margaret J. Morrow Living Trust, and Raymond Morrow Family Trust, were deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

100. Plaintiffs, Stephen J. Morrow and Stephen J. Morrow Revocable Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

101. Plaintiff, Danielle Boyd, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

102. Plaintiffs, Robert D. Maxwell, Marcia I. Maxwell, and Maxwell Family Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

103. Plaintiffs, Michael Reid and Kathryn Reid, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

104. Plaintiffs, Frank Shelton and Carla Shelton, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

105. Plaintiff, Alicia M. Turner, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

106. Plaintiff, William R. Noe, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

107. Plaintiff, Floyd E. Carpenter, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

108. Plaintiffs, Blue Acres, LLC and Megan Saylor Lifetime Trust, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

109. Plaintiff, Freeman Finley Farms, LP, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

110. Plaintiff, CPH Enterprises, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

111. Plaintiffs, Steven LaFont and Valerie LaFont, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

112. Plaintiff, John A. LaFont, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

113. Plaintiff, J. Matt LaFont, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

114. Plaintiff, Andrew LaFont, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

115. Plaintiff, Norman H. Lewis Trust, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

116. Plaintiff, Poco Properties, LP, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

117. Plaintiff, Albert Dueene, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

118. Plaintiffs, Mark Duenne and Julie Duenne, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

119. Plaintiff, David Black was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

120. Plaintiff, Sammy Boulton, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

121. Plaintiffs, Coy Jay Buchanan and Bradley L. Buchanan, were deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

122. Plaintiffs, Jerry Cooper, Keith Myers, and Lynn Denton, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

123. Plaintiff, Elite Fleeting & Consulting Services, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

124. Plaintiff, Estate of Ora L. Haynes, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

125. Plaintiff, Kieth Fryberger, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

126. Plaintiff, John G. Holland, Jr., was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

127. Plaintiffs, Sonya Hosick and Mike Hosick, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

128. Plaintiffs, William Hunt, Bobby Hunt, Mary Ann Wolter, Holly Blackwell, and Georgie Lang, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

129. Plaintiff, L & E Wilson Family Limited Partnership, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

130. Plaintiffs, Larry E. Wilson, Bruce A. Wilson, and Leann E. Thurman, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

131. Plaintiff, Stanley K. Myers, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

132. Plaintiff, J. Eugene Pierce, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

133. Plaintiff, Tyler Pittman, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

134. Plaintiffs, William D. Ryan, Jr. and Paul T. Ryan, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

135. Plaintiffs, Coy Simmons and Rhonda Simmons, were deprived of the use and enjoyment of their land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

136. Plaintiff, Tennessee River Towing, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

137. Plaintiff, West McCracken County Hunting Club, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

138. Plaintiff, Estate of Harrison Williams, c/o Roger Allcock, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

139. Plaintiffs, Ellise Falkoff Family Testamentary Trust A and Ellise Falkoff Family Testamentary Trust B, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

140. Plaintiff, Peggy Piper, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

141. Plaintiff, James K. Reeves Living Trust was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

142. Plaintiff, Crystal Lake Estate, Inc. was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

143. Plaintiff, Tom Showmaker, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

144. Plaintiff, Howard T. Troutman, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

145. Plaintiff, Workman Properties, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

146. Plaintiff, Martha Workman, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

147. Plaintiff, James T. Workman, III, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

148. Plaintiff, Patricia Workman Marchand, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

149. Plaintiff, Joye Workman, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

150. Plaintiff, Tracy Workman, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

151. Plaintiff, S & W Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

152. Plaintiff, East & West Ponds, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

153. Plaintiff, Kentucky's Big 3, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

154. Plaintiff, Columbus Bottoms, Inc., was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

155. Plaintiff, Fort Jefferson Farms, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

156. Plaintiff, Deweese Properties, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

157. Plaintiff, Lukas Deweese, was deprived of the use and enjoyment of his land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

158. Plaintiff, Mary Ann Wilson, was deprived of the use and enjoyment of her land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

159. Plaintiff, Joe Burcham Irrevocable Trust, was deprived of the use and enjoyment of its, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

160. Plaintiff, Jewell & Jewell, LLC, was deprived of the use and enjoyment of its land, listed in Exhibit A, due to a taking by gradual, recurrent and atypical flooding.

## **HISTORICAL BACKGROUND**

161. Until the early Twentieth Century, navigation of the Mississippi and Ohio Rivers was possible only in shallow draft vessels and often only seasonally, limiting the utility of the Rivers for transportation.

162. As transport and shipping needs increased, Congress determined that it was in the national interest to engineer greater navigability by placing man-made structures on and around the Rivers.

163. In 1906 the Corps Board of Engineers for Rivers and Harbors (the “Board”) recommended the establishment of a nine-foot navigation channel on the Ohio River from Pittsburgh, Pennsylvania to Cairo, Illinois. The Board planned to deepen the navigation channel by constructing lock-and-dam structures consisting of movable (“wicket”) dams, each constructed alongside a 110- by 600-foot lock chamber. Congress authorized the construction in the Rivers and Harbors Act of June 25, 1910.

164. From 1910 to 1922, most work on the Ohio River occurred upstream of Louisville, but by 1929, the Corps had extended the nine-foot Ohio River project westward from Louisville all the way to Cairo, despite widespread acknowledgment that commercial navigation on the Ohio River had practically come to a halt.

165. Congress introduced a similar plan for the Mississippi River as part of the Rivers and Harbors Act of 1927 (“1927 Act”). It authorized the manipulation of the Mississippi’s flow and geometry to create a narrow and deep channel suitable for navigation.

166. The 1927 Act authorized the establishment of a navigable channel 300 feet wide and at least nine feet deep on the Middle Mississippi River from the mouth of the Ohio River upstream to the northern boundary of St. Louis, Missouri.

167. The primary structure used to establish, deepen, and maintain the navigation channel of the Mississippi River was the “wing dike,” a piling of wood or rock that runs for hundreds or thousands of feet from the river bank into the channel to redirect flow and sediment.

168. The Corps constructed thousands of wing dikes and other river training structures in the Rivers, literally converting these rivers into man-made constructs.

169. The purpose of river training Structures is to constrict the river channel, concentrate flow, redirect sediment, and deepen and maintain the navigable portion of the channel.

170. The Structures block portions of the River’s flow area, increasing flow velocity in the navigable portion of the channel as well as increased WSEs.

171. The Corps’ engineering Structures achieved their intended purpose of encouraging and facilitating navigation on the Mississippi River and Ohio River.

## **THE CORPS' GROWING RIVER MANAGEMENT AND EXPANDING TOOLKIT**

172. Under the 1927 Rivers and Harbors Act, Congress established specific limits on how many feet the Corps can constrict the Mississippi River channel. Specifically, channel constriction through regulating works and revetment is limited to a conservative width of 2,500 to 2,000 feet at low water: 2,250 foot contraction from River des Peres to Grays Point; 2,500 foot contraction from Commerce to Commercial Point; and 2,000 foot contraction from Commercial Point to Ohio River.

173. The Corps has aggressively contracted the Mississippi River channel far beyond the mandated minimum widths without obtaining Congressional authorization.

174. Since approximately 1940, the geometry of the Middle Mississippi River channel has been sufficient to facilitate navigation, supported by ongoing maintenance (primarily the dredging of sediment from the navigation channel).

175. In the late 1980s and early 1990s, both governmental agencies and environmental groups began to take notice of the detrimental environmental impact of river training.

176. Dredging in particular poses an environmental threat to fish and wildlife because it disturbs the habitat of both the species residing at the channel bottom and those residing where the Corps deposits the dredged material.

177. Moreover, dredging is the single greatest cost item in the Corps' civil works budget.

178. To minimize dredging costs and allay environmental concerns, the Corps developed and utilized a new and expanding toolkit of Structures to reduce dredging and otherwise protect habitats.

### **The Bendway Weir**

179. In the 1980s, the Corps invented a new type of aggressive Structure, the bendway weir. According to the American Society of Civil Engineers, “[t]otally submerged stone weirs along the outside of a river bend are a new concept of river training developed by the US Army Corps of Engineers.” Starting in 1990, the Corps quickly began constructing bendway weirs in large numbers along the Middle Mississippi River.

180. Between 1990 and 1993 alone, the Corps constructed approximately 40,000 linear feet of dikes and bendway weirs on the Middle Mississippi River.

181. The Corps asserted that bendway weirs better redirect the flow of the river to shape the navigation channel and reduce dredging. According to the Corps, bendway weirs “extend directly into the navigation channel underneath passing tows. Their unique position and alignment alter the river’s spiraling, secondary currents in a manner which shifts the currents away from the outside bankline . . . [t]his results in a wider and safer navigation channel through the bend without the need for periodic maintenance dredging.”

182. As of 2012, at least 182 bendway weirs have been constructed on the Middle Mississippi River, with a cumulative length of at least 119,865 linear feet.

### The Chevron Dike

183. After 2000, the Corps introduced a new type of river training structure, the chevron dike, to respond to growing concerns about the environmental impact of the Corps' river training structures on wildlife habitats in the Rivers.

184. The chevron dike is an arch-shaped dike constructed in the river channel with its curved arch pointed upstream.

185. The chevron dike was intended to reduce the environmental impact of river training structures. The Corps claims that chevron dike creates a more diverse habitat than the wing dike, by promoting different kinds of aquatic habitats around the it and within the secondary streams created between the chevron dike and the bank.

186. The Corps asserted that the chevron dike better alters sediment flow to improve navigability and reduce maintenance costs vis-à-vis wing dikes. According to the Corps, “[t]he US Army Corps of Engineers (USACE) recently constructed a set of innovative river training structures in the Upper Mississippi River to remedy a repetitive maintenance dredging problem.”

187. The Corps has increasingly used the chevron dike at the encouragement of the U.S. Fish and Wildlife Service.

188. Between 2003 and 2010, the Corps built 23 chevrons in the Middle Mississippi River.

### **Additional Structures**

189. In addition to the bendway weirs and chevron dikes, the Corps continues to invent new training structures and build them in the Rivers.

190. New dike structures to date include so-called “S-dikes,” “W-dikes,” and more. The Corps has built and continues to build new dike inventions on the Rivers.

191. Additionally, as of 2012, at least 831 dikes or dike segments have been constructed on the Middle Mississippi River, with a cumulative length of at least 472,093 linear feet.

192. In 2017, the Corps recommended to Congress that they proceed with a 15-year construction plan to bolster more than 1,375 Structures along the Rivers.

### **THE CORPS KNEW OR SHOULD HAVE KNOWN THAT THE CUMULATIVE EFFECT OF ITS STRUCTURES WOULD BE INEVITABLY RECURRING ATYPICAL FLOODING OF PLAINTIFFS’ LANDS**

193. The most common measure of Water Surface Elevations (WSEs) is the “stage,” *i.e.* WSEs relative to a local datum. Stage is measured by local gage stations along the Rivers.

194. As long as continuous records have been kept, flood stages at constant discharge have increased steadily on the Missouri and certain stretches of the Mississippi River. These increases correlate with growing efforts to manage the Rivers.

195. Present-day floods on the Mississippi River at St. Louis tend to be nine feet higher than historic floods at 780,000 cubic feet per second (“cfs”).

196. Flood peaks, *i.e.* the highest value of stage for a particular gage, of the Mississippi River were 0.61 meters higher in 1973 than in 1844, but discharge was approximately 35% less than the estimated flow for 1844.

197. The 1908 Mississippi River flood had the same flow as the 1973 Mississippi River flood, but the flood peak was 2.51 meters lower in 1908.

198. For decades, academic research had linked construction of wing dikes with increased flood levels. Peer-reviewed publications have linked wing dikes to large decreases in flood conveyance and increases in flood levels on the Mississippi River and its tributaries.

199. In addition to academic studies, decades of the Corps' own research have associated both losses of channel conveyance and increases in flood levels on portions of the Mississippi River and its tributaries with extensive dike construction.

200. In 1896 the Corps linked its first system-wide wing-dam construction to reduced bank full channel capacity on the Missouri River.

201. Corps' reports at the turn of the Twentieth century recognized that intensive channelization of the Missouri River resulted in losses in bank full capacity of up to 18%. Further, the Corps acknowledged that although low flows within the channel are being conveyed at progressively lower stages, flood flows are now significantly higher than prior to regulation of the river.

202. At the "navigation channel" sites along the Missouri River, WSEs fell for low discharges but rose for flood discharges, with some stations rising for all

conditions. In a 1998 technical report, the Corps observed, “[t]he upward trend is most apparent at Nebraska City[, Missouri] and St. Joseph[, Missouri], where flows of 80,000 to 90,000 cfs now go overbank compared to bank full discharges of around 150,000 cfs about 30 years ago.”

203. The Corps has acknowledged that the United States Fish and Wildlife Service (“USFW”) “states that channel training structures have also altered the natural hydrograph of the Middle Mississippi River by contributing to higher WSE at lower discharges than in the past and to a downward trend in annual minimum stages.”

204. The impact of river training structures is cumulative; it aggregates over many river miles and may be affected by the specific configuration of various types of structures at specific points within the Rivers.

205. The full impact of a river training Structure is not immediately realized. It increases over time, reaching a maximum effect as late as twenty years after its construction.

206. In addition, the Corps has adopted new structures that contribute more substantially to WSE and flooding. Comparative analysis of the impacts of wing dikes and bendway weirs upon flood levels demonstrates that bend-way weirs have many times the flood impact of wing dikes.

207. At the confluence of the Mississippi River and Ohio River at Cairo, Illinois, the Corps constructed levees along the banks of the Rivers in the States of Missouri and Illinois but did not construct or authorize levees on the adjacent banks

in the State of Kentucky. The Corps knew, or should have known, that the direct, natural, probable and foreseeable result of the totality of its river training efforts would be to increase the average WSEs and cause atypical flooding events in some locations.

208. The Corps did not construct or authorize levees in the Illinois Counties of Alexander, Massac, Pope, and Pulaski. The Corps knew, or should have known, that the direct, natural, probable and foreseeable result of the totality of its river training efforts would be to increase the average WSEs and cause atypical flooding events in some locations.

209. There has been widespread and well documented public opposition to additional dike construction on the Rivers.

210. The Corps held a public hearing in Wolf Lake, Illinois in February of 2014. The hearing was intended to engage with stakeholders, as required by the National Environmental Policy Act, regarding the Corps' Grand Tower Phase 5 project, one of several local dike construction projects along the MMR. The hearing was crowded with teachers, students, levee board members, local leaders, scientists, environmentalists and numerous floodplain residents. The overwhelming consensus was in opposition to the construction of new Structures through the project. Minutes after the meeting, the district staff told local media that they will move forward with the projects regardless of public input. Indeed, the district announced shortly thereafter that it would proceed with dike construction as planned.

211. The Editorial Board of the St. Louis Post-Dispatch, along with numerous other press groups and outlets nationwide, have repeatedly exhorted the Corps to come to grips with the impacts of its river construction program on flooding.

212. The Corps has uniformly dismissed and disregarded all expressions of concern and opposition by the public and other federal agencies alike.

213. Worse yet, in response to mounting evidence demonstrating that its Structures and river management practices have increased flood levels and frequencies, the St. Louis District of the Corps (“St. Louis Corps”) has hidden and manipulated original river data. These data manipulations effectively mask increases in flood magnitudes and frequencies; increases driven primarily by the Corps own construction of river training Structures.

214. Despite voluminous academic and Corps research suggesting that Structures are likely to cause flood-level increase, the Corps continues to take the position that river training Structures do not have an effect on flood heights and build at a rapid rate.

### **Testing**

215. There are three primary means of testing Structures to predict their potential real world impact.

216. The first method of testing the impact of river training structures is the empirical analysis of real-world river measurements in the years after construction to document the actual impacts of Structures. The Corps and the

United States Geological Survey (“USGS”) periodically measure river flow volumes and WSEs at numerous measurement stations on the Rivers. Using statistics and other techniques, it is possible to precisely compare river conditions before and after construction.

217. Physical modeling is the second method of testing the impact of Structures. An experimental model of the proposed structure and other project features is constructed at a reduced scale, and water is poured through the model to predict the potential impacts on flow patterns, sedimentation, and potentially on flood levels. Physical models can be built at a variety of scales, from tens of feet to hundreds of feet in length.

218. The third method of testing the impacts of Structures is through computer-based hydraulic modeling. In this approach, the river system is simulated digitally using the principles of hydraulics and specialty software in one-, two-, or three-dimensions. Like physical models, computer models can be used to estimate the impacts of new Structures before such Structures are built. Both physical and computer modeling yield only best-guess estimates of real-world impacts, because they require the use of certain assumptions and uncertainties.

219. The Corps currently designs and tests new dike types and dike projects using physical models, the least effective testing mechanism of the three available approaches. The Corps developed its own method of physical modeling using an extremely small-scale sandbox model built on a tabletop, sometimes known as a “micro-model.”

220. “Micro-modeling” of river impacts has been criticized by academic researchers and even by some Corps engineers, and has been referred to as “a sandbox and a garden hose.”

221. Regarding its practice of physical tabletop modeling, the Corps’ admits that “some people within USACE question the veracity of micro-models, and some people outside USACE have severely criticized micro-models,” concluding that micro-modeling “shows a lack of predictive capability” and that “the micro-model should be limited to demonstration, education, and communication.”

222. Further, tabletop micro-modeling is incapable of testing dike impacts on flood levels. Maynard (2006) notes that there is “no correspondence of stage in model and prototype,” meaning no relationship between WSEs in the micro-model verses WSEs in the real world. Even the inventors of the St. Louis District micro-model, Robert Davinroy and his colleagues, acknowledge that, “flow and stages are not directly scalable.” In fact, as implemented by the St. Louis District, the tabletop micro-model *cannot even be operated in flood conditions* because “[m]aximum stages in the micro-model are about 2/3 of bank full.”

223. Despite superior modeling alternatives in widespread use within the private sector, the federal government, and even the Corps itself, the Corps continues to deploy river training structures after only conducting physical micro-model tests, obscuring the natural and foreseeable consequence of aggressive river training, including flooding of Plaintiffs’ property.

## RECENT FLOODING

224. Periodic seasonal flooding of the Rivers onto adjacent floodplain land is a natural phenomenon, recorded for centuries and observed for millennia.

225. Nonetheless, by every measure, the magnitude, frequency, and duration of flooding have dramatically increased in recent years.

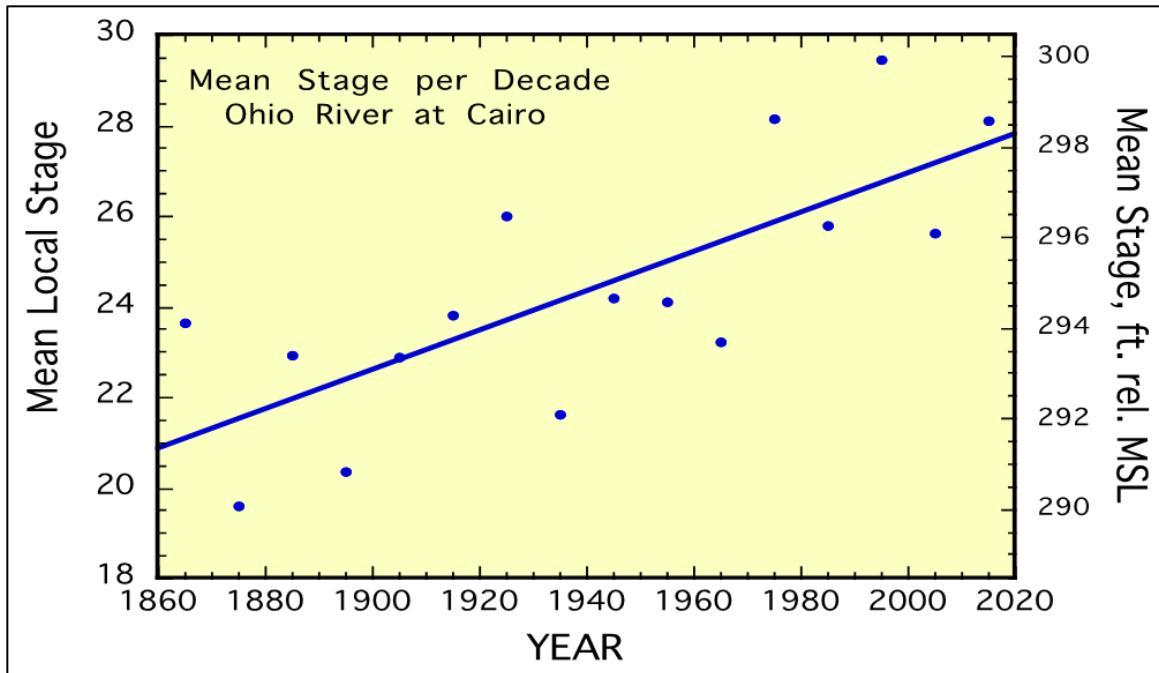
226. For example, United States Geological Survey (“USGS”) tables indicate that in 12 of the past 20 years most of Plaintiffs’ properties have experienced at least a “5-year flood,” signifying a flood that historically has a 20% chance of occurring in any given year.

227. However, the Corps and other government agencies have repeatedly issued and published reports that attributed most of this flooding to human development including climate change and land-use change.

228. In 2012, the USGS issued a report on the history and summary of the effects of river engineering and dams on the Mississippi River System and Delta, which effectively attributed increased flooding to reduced channel capacity caused by the Corps river engineering, including river training structures.

229. The mean local stage of the Rivers has been progressively increasing with the progressive construction of Structures.

230. Below is a true and accurate graph depicting the mean river stage on the Ohio River at Cairo, Illinois:



231. Some Plaintiffs' lands are inundated at stage levels below the official National Weather Service ("NWS") flood stages.

232. The Federal Emergency Management Agency ("FEMA") has recognized the increase in flooding and has recently changed its assessment of flood risk for Plaintiffs' property.

233. Moreover, as recently as this year, Plaintiffs who have historically been able to obtain crop insurance have no longer been able to do so for certain crops, have seen their premiums rise, or have had their policies rated at high risk for flooding.

234. Plaintiffs who use their land for farming lost their crops because of flooding in three out of the last four years: 2015, 2016, and 2018.

235. Plaintiffs who use their land for recreational purposes lost access to their land because of flooding in three out of the last four years: 2015, 2016, and 2018.

236. Between 2015 and 2018, Plaintiffs became aware of the damage to their property caused by Defendant's ongoing construction of Structures on the Rivers, which was unascertainable until that time.

### **CAUSAL MECHANISMS**

237. Objective measures of flooding, such as river stage, show that recent flooding has been more frequent, more intense, and longer in duration at many locations on the Rivers. These increases are progressive, systematic, and statistically significant.

238. The causal mechanisms that could magnify flooding fall into two groups: (1) upstream factors, and (2) instream factors.

239. "Upstream factors" include potential climate change, basin land-cover change, and any dams present upstream on the river or its tributaries.

240. "Instream factors" include alterations of the river channel or floodplain, such as those instigated by the Corps, which change how floodwaters are conveyed through a given stretch of river.

241. On the Mississippi River, research has specifically assessed the combined impacts of climate change and land-cover change ("upstream factors") and found their effects on large Mississippi River floods to be *de minimis*.

242. In the upper Mississippi watershed, both statistical analyses of flood trends, and climate modeling studies, conclude that climate change is not making the largest floods larger.

243. Further, changes in upstream factors would increase “discharge,” *i.e.* river flow rate measured in cubic feet per second.

244. In the area near the confluence of the Ohio and Mississippi Rivers, discharge is heavily influenced by Corps releases from the Kentucky Dam on the Tennessee River and Barkley Dam on the Cumberland River.

245. Higher discharge caused by government action could increase flood levels along this reach of the river, particularly atypical flooding in the fall and winter months.

246. Historic instream changes to the Rivers include the river training Structures, levees, large construction projects in the river, and the constriction of the river channel. Narrowing or constriction of the Rivers has been a direct causal result of Structure building. Thus, both Structure construction and constriction can be considered concurrently.

247. The hydraulic impact of levees has been extensively studied, including on the Middle Mississippi River and upper Lower Mississippi River, showing levee-driven increases in flood levels that is *de minimis* compared to the impact of river training structures.

248. The new Olmsted Dam Project has also constricted the Ohio River as the project was undergoing construction.

249. Because most of the other observed atypical flooding on the Mississippi River cannot be attributed to other available factors, the impact of Structures has been extensively researched.

250. In contrast to discharge measurements, long-term analysis of stage measurements shows statistically significant increases in flooding and flood duration at measurement stations along the Middle Mississippi River and upper Lower Mississippi River near the confluence.

251. Specific Gage Analysis, a method of isolating the contribution of instream factors to flooding, has been performed for measurement stations throughout the Mississippi River. These analyses show increases in WSE precisely where and when Structures have been built. In other words, when and where Structures were built correlates when and where flood levels and WSEs have increased. Where such Structures were not built, flood levels and WSEs increased little or not at all.

252. In rivers where Structures have been removed or minimized, such as in the upper Ohio River and the Rhine River, flood levels have significantly decreased, returning to historic levels.

253. Statistical analysis of these specific gage trends shows that on the Middle Mississippi River the construction of thousands of feet of wing dike and chevron dikes has resulted in up to 15 feet of increased flood levels in some locations and six to ten feet in broad stretches of the Middle Mississippi River and upper Lower Mississippi River where these Structures are prevalent.

254. There have been small, up-and-down changes in flood magnitudes over time, but there have been unprecedented increases in flood magnitudes that coincide with the Corps' continued navigation engineering of the Mississippi River.

255. In addition, hydraulic modeling—a simulation of impact of instream changes on flooding—has also been used to test the impacts of Structures on the Mississippi River.

256. The retro-modeling shows that the clear majority of total increases in flooding are directly attributable to the Corps' construction of Structures. Structures increased flood levels by up to 15 feet in some locations and 6 to 10 feet in stretches of the Mississippi River where these Structures are prevalent.

257. By all the above measures, research indicates that the impacts of instream and upstream factors are cumulative, meaning that each successive construction on the Rivers adds to and exacerbates the magnitude of flooding on the Rivers.

258. Due to backwater effects, flooding on the extreme Lower Ohio River for many miles upstream of the confluence is can be effected by water levels on the Mississippi River and by the engineering modifications of the Mississippi River that have altered flood stages.

**THE CORPS' CONSTRUCTION OF RIVER TRAINING STRUCTURES HAS  
INTERFERED WITH PLAINTIFFS' REASONABLE INVESTMENT-BACKED  
EXPECTATIONS FOR THEIR PROPERTY**

259. The atypical flooding caused by the Corps' construction practices has imposed a severe burden on Plaintiffs' land and other property, profoundly

disrupting and interfering with Plaintiffs' reasonable expectations for the continued intended and customary use of that property.

260. The Corps' Structures have caused higher WSEs for longer durations, which has blocked drainage and raised the groundwater table, significantly impairing the use of agriculture and recreation property.

261. As a result of increased WSEs, many timber species historically native to the area have died, and will no longer grow or reproduce.

262. Furthermore, Plaintiffs who farm have lost crops, have not been able to farm, or can no longer farm due to the atypical flooding.

263. Some Plaintiffs have not been able to access their property due to the atypical flooding.

264. Some Plaintiffs' land has been severely eroded by the Rivers due to the atypical flooding.

265. Plaintiffs have made significant investment of time and resources in the land and other property now devastated by the Corps' actions. Plaintiffs made these investments based on the expectation that the Corps would manage the Rivers responsibly.

#### **CAUSE OF ACTION**

##### **The Corps Took Plaintiffs' Property Without Just Compensation in Violation of the Fifth Amendment of the United States Constitution.**

266. Plaintiffs incorporate by reference and reallege as though fully set forth herein, each and every allegation as set forth in the preceding paragraphs of this Complaint.

267. Plaintiffs have a legally recognized property interest in their land and other property, and the economic benefits associated with that property, located in the river bottoms.

268. Plaintiffs had distinct, reasonable, investment-backed expectations that their property would only be subject to flooding in line with the historical hydrograph of the Middle Mississippi River, upper Lower Mississippi River, and lower Ohio River.

269. Atypical flooding has and will continue to significantly interfere with that property interest and upset Plaintiffs' reasonable, investment-backed expectations on a temporary and permanent basis.

270. The atypical flooding of Plaintiffs' property has interfered with Plaintiffs' property interests for a substantial period of time and, in some instances, permanently destroyed Plaintiffs' property or permanently deprived Plaintiffs of the use and enjoyment of their property.

271. That atypical flooding is and has been a direct and foreseeable result of the Army Corps' construction of Structures in the Rivers.

272. The Corps continued construction of Structures has been for the purpose of achieving a public good; namely, to facilitate navigation on the Rivers in a manner that minimizes costly and environmentally damaging dredging.

273. Plaintiffs' property has been subjected to atypical flooding that would not otherwise have occurred. To the extent that natural seasonal flooding would

have occurred in the absence of the Corps' Structures, it has been severely altered and aggravated by the Structures.

274. The Corps knew or should have known that its constriction of the river by Structures would result in atypical flooding of Plaintiffs' property.

275. Such atypical flooding of Plaintiffs' property was the direct, natural, probable, and foreseeable result of the Corps' actions.

276. The Corps took flowage easements over Plaintiffs' property without just compensation.

277. The Corps took Plaintiffs' property for a public purpose.

278. The Corps' actions are attributable to the United States.

279. The United States government has not provided Plaintiffs with just compensation for its taking of Plaintiffs' property.

### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs pray that this Court enter judgment on their behalf, against the

Defendant, adjudging and decreeing that:

- A. Defendant took Plaintiffs' property without just compensation in violation of the Fifth Amendment of the United States Constitution;
- B. Judgment be entered against the Defendants and in favor of Plaintiffs for compensation for the property right taken from them, together with the costs of suit, including reasonable attorneys' fees and interest;
- C. Plaintiffs be awarded just compensation for their deprivation and losses;

D. Plaintiffs have such other, further, and different relief as the case may require and the Court may deem just and proper under the circumstances.

Dated: January 31, 2020

Respectfully Submitted,



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